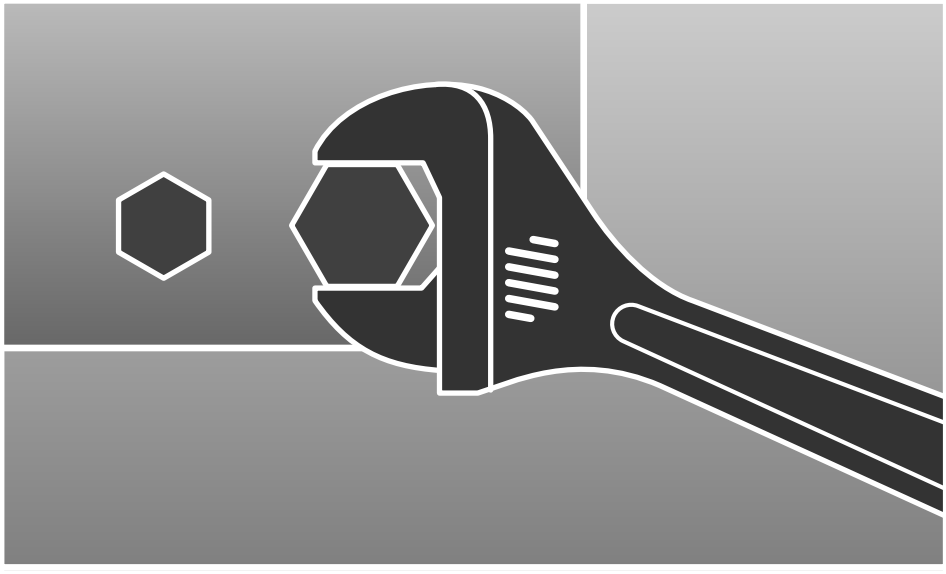
SAMSUNG

INSTALLATION MANUAL
MANUAL DE INSTALACIÓN
MANUEL D'INSTALLATION
MANUALE D'INSTALLZIONE
MANUAL DE INSTALAÇÃO
INSTALLATIONS-HANDBUCH
ΕΓΧΕΙΡΙΔΙΟ ΕΓΚΑΤΑΣΤΑΣΗΣ
ИНСТРУКЦИЯ ПО УСТАНОВКЕ

KH026EAM
KH035EAM

ENGLISH
ESPAÑOL
FRANÇAIS
ITALIANO
PORTUGUÊS
DEUTSCH
ΕΛΛΗΝΙΚΑ
RUSSIAN

System Air Conditioner (Cool and Heat)
Aire acondicionado sistemático (Refrigeración y Calefacción)
Climatiseur numérique multifonctionnel (Refroidissement et Chauffage)
Sistema Aria Condizionata (Raffreddamento e Riscaldamento)
Sistema Ar Condicionado (Refrigeração e Aquecimento)
Klimaanlage System (Kühlen und Wärmen)
Σύστημα Κλιματισμού (Ψύξης και Θέρμανσης)
Системный Воздушный Кондиционер (Охлаждение и обогрев)



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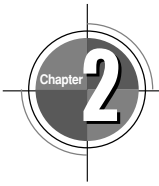

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Preparation for Installation

When deciding on the location of the air conditioner with the owner, the following restrictions must be taken into account.

General

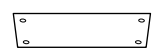
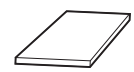
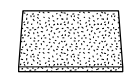
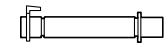
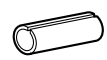
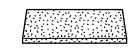
Do NOT install the air conditioner in a location where it will come into contact with the following elements:

- Combustible gases
- Saline air
- Machine oil
- Sulphide gas
- Special environmental conditions

If you must install the unit in such conditions, first consult your dealer.

Accessories

- The following accessories are supplied with the indoor unit.
  The type and quantity may differ depending on the specifications.

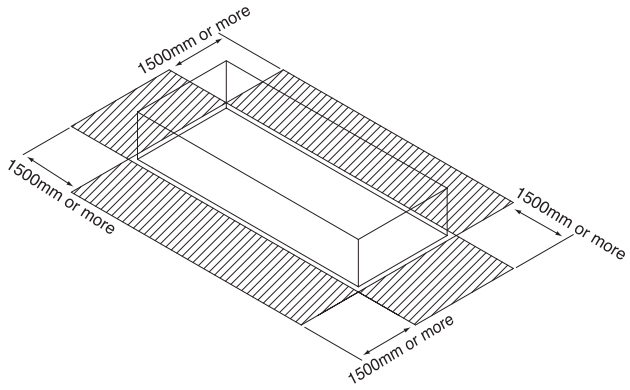
Pattern sheet 	Insulation refrigerant pipe 	Insulation cover drain 	Flexible hose 
Insulation drain 	Installation manual	Rubber	Insulation cover band 

Deciding on Where to Install the Indoor Unit

Indoor Unit

- There must be no obstacles near the air inlet and outlet.
- Install the indoor unit on a ceiling that can support its weight.
- Maintain sufficient clearance around the indoor unit.
- Make sure that the water dripping from the drain hose runs away correctly and safely.
- The indoor unit must be installed in this way, that they are out of public access. (Not touchable by the users)

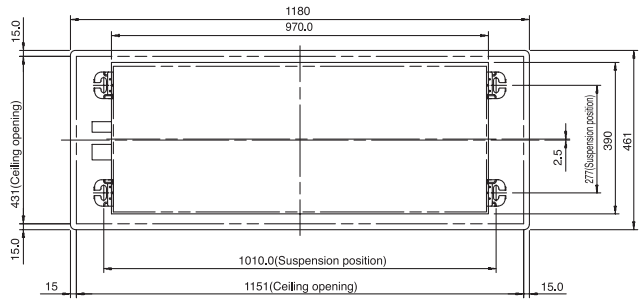
Space Requirements for Indoor Unit

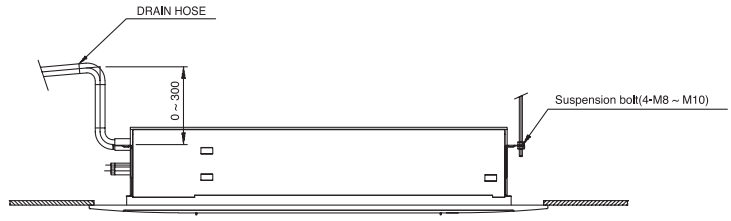


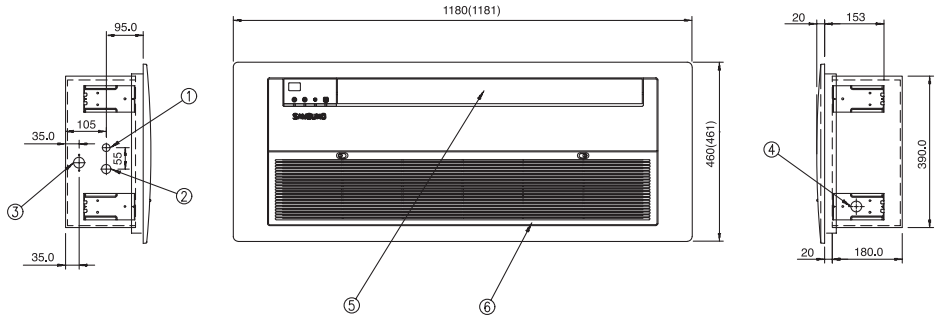
Deciding on Where to Install the Indoor Unit (cont.)

Drawing of the indoor unit

Unit : mm





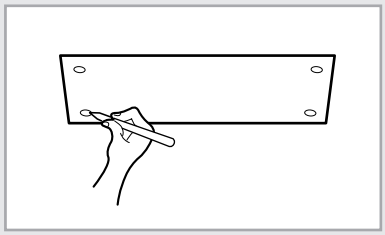


No.	Name	Remark
1	Liquid pipe connection	ø6.35
2	Gas pipe connection	ø9.52
3	Drain pipe connection	OD29 ID25
4	Power supply connection	
5	Air discharge grille	
6	Air suction grille	

Indoor Unit Installation

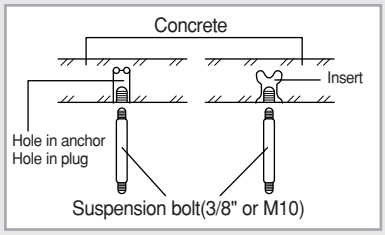
It is recommended to install the refnet joint before installing the indoor unit.

1 Place the pattern sheet on the ceiling at the spot where you want to install the indoor unit.



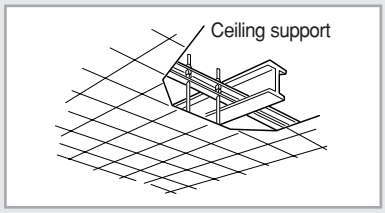
Note ◆ Since the diagram is made of paper, it may shrink or stretch slightly due to temperature or humidity. For this reason, before drilling the holes maintain the correct dimensions between the markings; refer to page 6.

2 Insert bolt anchors, use existing ceiling supports or construct a suitable support as shown in figure.



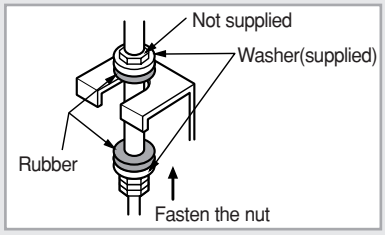
3 Install the suspension bolts depending on the ceiling type.

IMPORTANT ◆ **Ensure that the ceiling is strong enough to support the weight of the indoor unit.**
Before hanging the unit, test the strength of each attached suspension bolt.
◆ **If the length of suspension bolt is more than 1.5m, it is required to prevent vibration.**



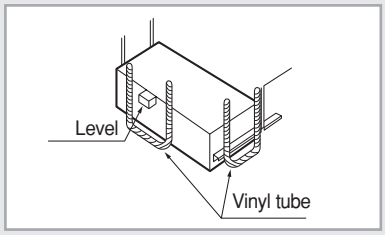
4 Screw eight nuts to the suspension bolts making space for hanging the indoor unit.

IMPORTANT **You must install the suspension bolts more than four when installing the indoor unit.**



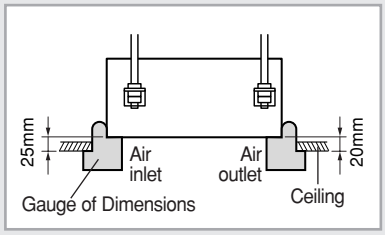
5 Check the level of the indoor unit by using a leveler or a vinyl tube filled with water.
◆ A tilt of the indoor unit may cause malfunction of a built-in float switch and water leaks.

6 Adjust the height of the indoor unit by using the gauge of dimensions.
◆ The air inlet side should be slightly higher than the air outlet side (approx. 5mm). The appropriate height from the ceiling surface is 25mm for the air inlet and 20mm for the air outlet.
◆ You should adjust the gauge of dimensions and the pattern sheet to fit the cutting dimensions of ceiling.
◆ Make sure that the indoor unit is installed at a level if the indoor unit slants too much, there can be water leaks.



7 Tighten the upper part nuts.

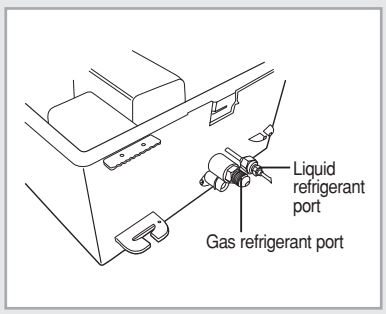
8 Remove the gauge of dimensions after installing the indoor unit.



Purging the unit

On delivery, the indoor unit is loaded with refrigerant gas.

All this gas must therefore be purged before connecting the assembly piping. To purge the inert gas, proceed as follows.



Unscrew the pinch pipe at the end of each refrigerant pipe.

Result: All inert gas escapes from the indoor unit.

Note

- To prevent dirt or foreign objects from getting into the pipes during installation, do NOT remove the pinch pipe completely until you are ready to connect the piping.

Connecting the Refrigerant Pipe

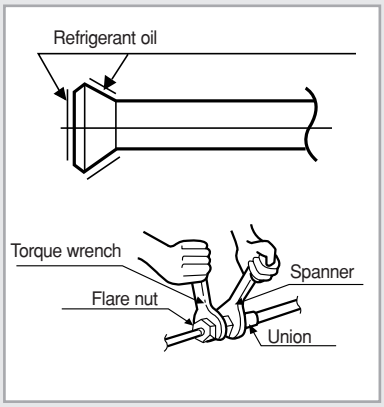
There are two refrigerant pipes of differing diameters:

- A smaller one for the liquid refrigerant
- A larger one for the gas refrigerant
- The inside of copper pipe must be clean & has no dust.

1 Remove the pinch pipe on the pipes and connect the assembly pipes to each pipe, tightening the nuts, first manually and then with a wrench, a spanner applying the following torque.

Outer Diameter	Torque (kgf•cm)
6.35 mm (1/4")	144~176
9.52 mm (3/8")	333~407
12.70 mm (1/2")	504~616
15.88 mm (5/8")	630~770
19.05 mm (3/4")	990~1210
22.23 mm (7/8")	990~1210

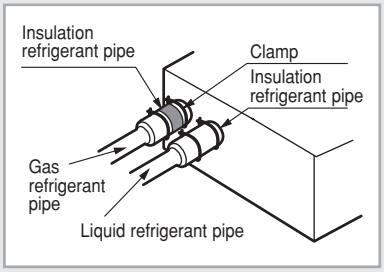
Note ◆ If the pipes must be shortened refer to page 10.



2 Must use insulator which is thick enough to cover the refrigerant pipe to protect the condensate water on the outside of pipe falling onto the floor and the efficiency of the unit will be better.

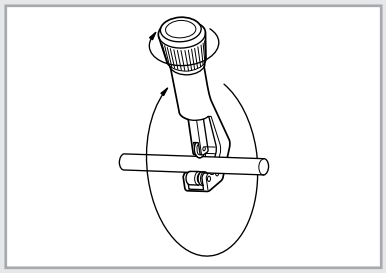
3 Cut off any excess foam insulation.

4 Be sure that there must be no crack or wave on the bended area.



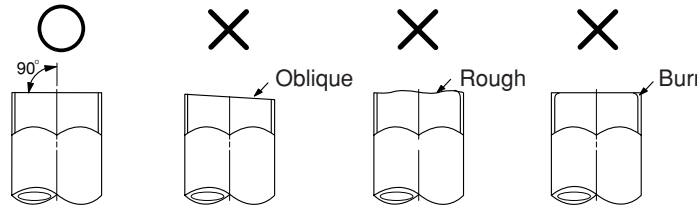
5 It would be necessary to double the insulation thickness(10mm or more) to prevent condensation even on the insulator when if the installed area is warm and humid.

Cutting/Flaring the Pipes

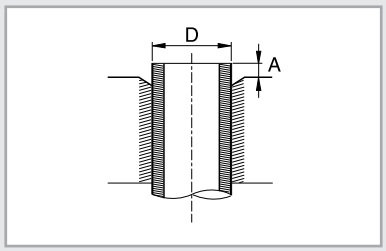


1 Make sure that you have the required tools available (pipe cutter, reamer, flaring tool and pipe holder).

2 If you wish to shorten the pipes, cut it with a pipe cutter, taking care to ensure that the cut edge remains at a 90° angle with the side of the pipe. Refer to the illustrations below for examples of edges cut correctly and incorrectly.

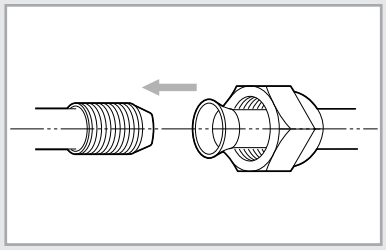


3 To prevent any gas from leaking out, remove all burrs at the cut edge of the pipe, using a reamer.

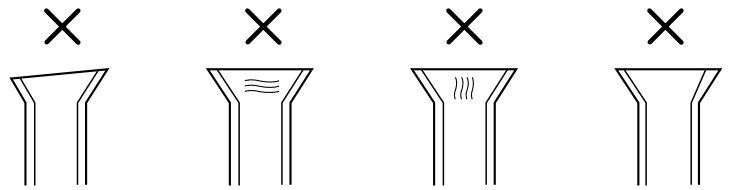


4 Slide a flare nut on to the pipe and modify the flare.

Outer Diameter (D)	Depth (A)
6.35 mm (1/4")	1.3mm
9.52 mm (3/8")	1.8mm
12.70 mm (1/2")	2.0mm
15.88 mm (5/8")	2.2mm
19.05 mm (3/4")	2.2mm
22.23 mm (7/8")	2.2mm



5 Check that the flaring is correct, referring to the illustrations below for examples of incorrect flaring.



6 Align the pipes and tighten the flare nuts first manually and then with a wrench, applying the following torque.

Outer Diameter	Torque (kgf•cm)
6.35 mm (1/4")	144~176
9.52 mm (3/8")	333~407
12.70 mm (1/2")	504~616
15.88 mm (5/8")	630~770
19.05 mm (3/4")	990~1210
22.23 mm (7/8")	990~1210

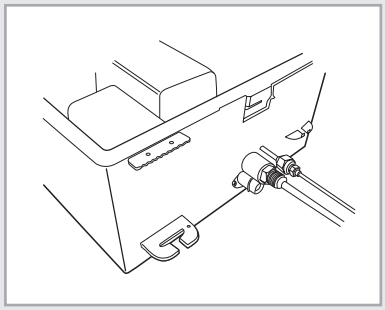
CAUTION

- ***In case of welding the pipe, you must weld with nitrogen gas blowing.***

Performing Leak Test & Insulation

Leak Test

To check for gas leaks on the indoor unit, check the connection part of each refrigerant pipe by using a leak detector.

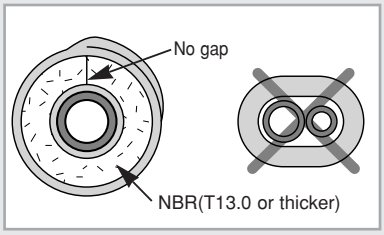


Insulation

Once you have checked that there are no leaks in the system, you can insulate the piping and hose.

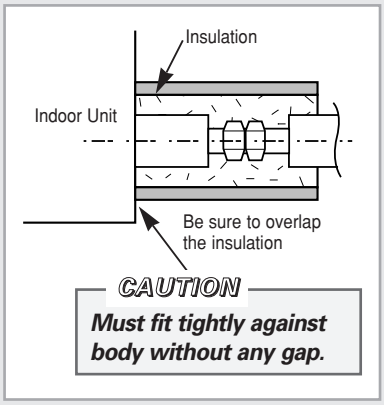
1 To avoid condensation problems, place **T13.0 or thicker Acrylonitrile Butadien Rubber** separately around each refrigerant pipe.

Note ◆ Always make the seam of pipes face upwards.

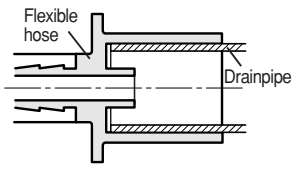


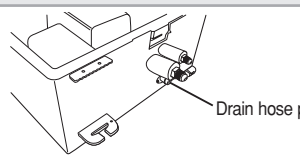
2 Wind insulating tape around the pipes.

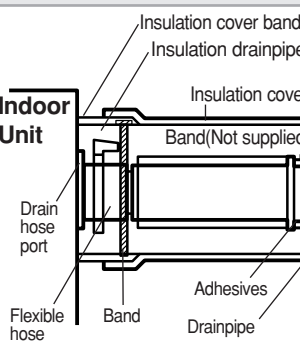
3 Finish wrapping insulating tape around the rest of the pipes leading to the outdoor unit.



Drainpipe and Drain Hose Installation







Care must be taken when installing the drainpipe and drain hose for the indoor unit so that condensate water is drained correctly outside.

1 Fix the flexible hose to the drainpipe.
- ◆ The connection port of the flexible hose and PVC drainpipe must be fixed with PVC adhesives.
- ◆ Check out that the connected part doesn't leak.

2 Connect the flexible hose to the flexible hose port.
- ◆ Make sure that a rubber ring is installed on the drain hose port.

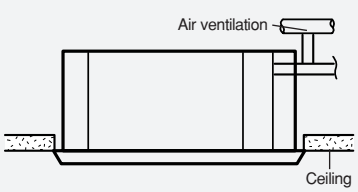
3 Install the drainpipe as shortly as possible.
- ◆ Give a slightly slant to the drainpipe for proper drainage of condensate water.
- ◆ There must be no gap on the connected part so that the drainpipe is not separated from the flexible hose

4 Insulate the drainpipe, and then fix it as indicated.

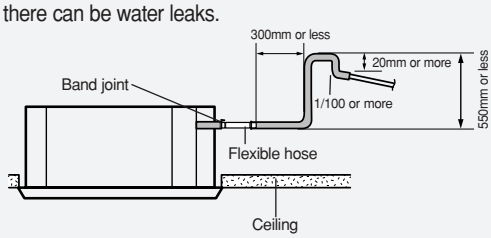
CAUTION

Check that the indoor unit is level with the ceiling by using the leveler.

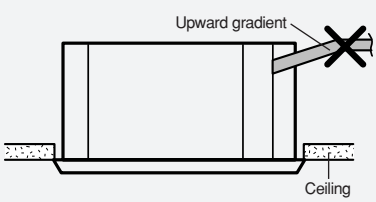
Install air ventilation to drain condensate water smoothly.



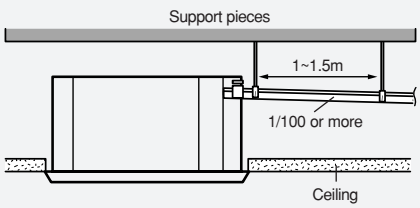
If it is necessary to increase the height of the drainpipe, install the drainpipe straightly within 300 mm from the flexible hose port. If it is raised higher than 550 mm, there can be water leaks.



Do not give the hose and upward gradient after the connection port.
This will cause water to flow backwards when the unit is stopped, resulting in water leaks.



Do not apply force to the piping on the unit side when connecting the drain hose. The hose should not be allowed to hang loose from its connection to the unit. Fasten the hose to a wall, frame or other support as close to the unit as possible.



Lift-up Drain piping

If it is necessary to increase the height of the drain hose somewhat, install a lift-up drain piping.

1 Connect a lift-up drain pipe top to the drain hose with an adhesive for PVC.

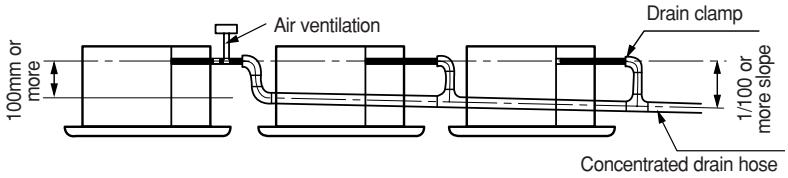
2 Wrap the insulation drain with a vinyl tape.

3 Connect the lift-up drain pipe to the indoor unit drain hose with an adhesive for PVC.

4 Turn the lift-up drain piping, then adjust the height.

Note ◆ If it is raised higher than 55cm, there can be water leaks.

Note ◆ If a concentrated drain hose is installed, refer to the figure below.

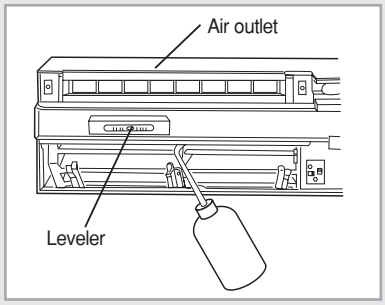


Testing the Drainage

You should test drainage after completing the installation. Prepare a little water about 1.0 liter.

1 Open the cover water supply intake.

2 Pour water into the water supply intake.



CAUTION

◆ ***When maintaining the air conditioner, remove condensate water remained in the drain pan by using a drain port for maintenance.***

Connecting the Connection Cord

The indoor unit is powered from the outdoor unit via the connection cord.

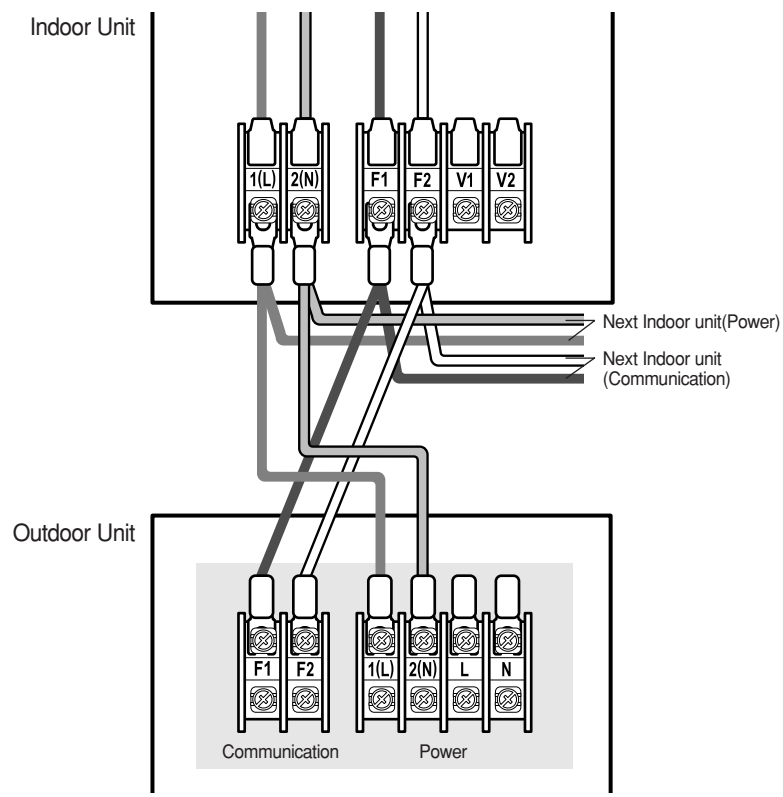
1 Remove the screw on the electrical component box and remove the cover plate.

2 Route the connection cord through the side of the indoor unit and connect the cable to terminals; refer to the figure below.

3 Route the other end of the cable to the outdoor unit through the ceiling & the hole on the wall.

4 Reassemble the electrical component box cover, carefully tightening the screw.

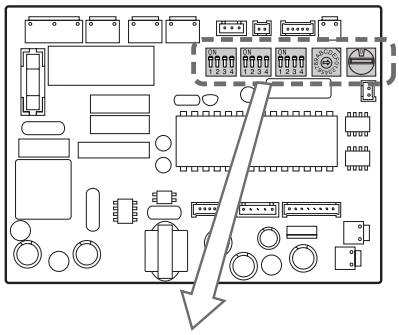
Wiring Diagram

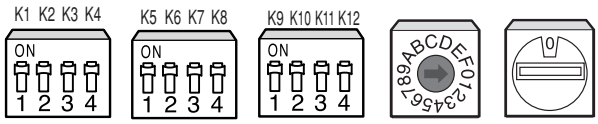


Assigning Address to Indoor Unit

1 Before installing the indoor unit, assign an address to the indoor unit according to the air conditioning system plan.

2 The address of the indoor unit is assigned by adjusting MAIN(SW02) and RMC(SW01) rotary switches.





SW03 SW04 SW05 SW01 RMC SW02 MAIN

✻ You don't have to assign the MAIN address when installing one indoor unit for one outdoor unit.

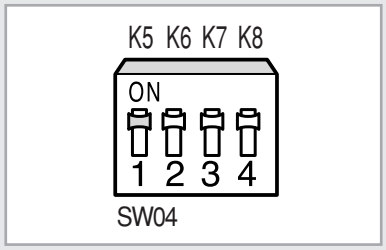
3 The MAIN address is for communication between the indoor unit and the outdoor unit. Therefore, you must set it to operate the air conditioner properly.

4 It is required to set the RMC address if you install the wired remote controller and/or the centralized controller.

5 If you install optional accessories such as the wired remote controller, centralized controller, etc. see an appropriate installation manual.

6 If an optional accessory is not installed, you do not have to set the RMC address. However, adjust K1 and K2 switches of the SW03 DIP switch to "ON" position in this case.

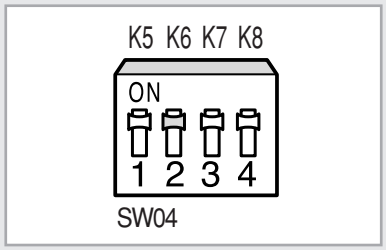
Compensation for lost temperature in heating operation



◆ Reduces the difference between an actual room temperature and a sensed temperature by the air conditioner when heating.

Switch No.	Switch ON	Switch OFF
K5	2°C compensation	5°C compensation

Adjusting filter cleaning cycle



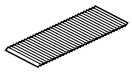
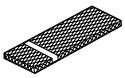
◆ You can adjust the cycle for filter sign indicator.

Switch No.	Switch ON	Switch OFF
K6	1000 hours	2000 hours

Bio-pure Filter Installation (optional)

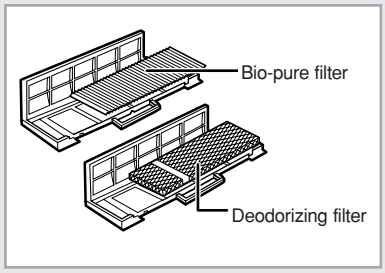
The air conditioner can be fitted with a Bio-Pure or deodorizing filter to remove minute dust particles or odours. The service life of the filter is approximately three months depending on the time during which the air conditioner is used.

Accessories

Bio-pure filter	Deodorizing filter
1	1
	

1 Remove the vinyl packing from the filter.

Note Do not remove the packing from a bio-pure or deodorizing filter until you wish to use the filter, as it will lose its properties.



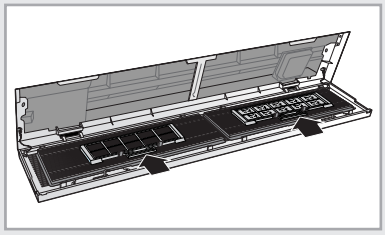
2 Open the front grille by pulling the tabs on the grille.

3 Remove the front grille.

3-1 Remove the safety clips.

3-2 Open the front grille about 45° and pull it forward.

4 Insert Bio-Pure or deodorizing filter.



5 Reinstall the front grille and the safety clips.

Detection of errors

- If an error occurs during the operation, an LED flickers and the operation is stopped except the LED.
- If you re-operate the air conditioner, it operates normally at first, then detect an error again.

LED Display on the indoor unit

LED Display

Abnormal conditions	Indicators					Operating
	⏻		⏲	✣	▦	
	Green	Red				
Power reset	◑	X	X	X	X	
Error of temperature sensor in indoor unit (OPEN/SHORT)	X	X	◑	X	X	
Error of heat exchanger sensor in indoor unit Error of heat exchanger OUT sensor in indoor unit Error of outlet temperature sensor in indoor unit (OPEN/SHORT): For heat pump models only	◑	X	◑	X	X	
Error of mixed operation	X	◑	X	◑	X	
Error of indoor fan motor: Below 450RPM for 15 minutes	X	X	X	◑	X	
Error of outdoor temperature sensor Error of COND sensor Error of DISCHARGE sensor	◑	X	X	◑	X	
1. No communication for 2 minutes between indoor unit and outdoor unit (communication error for more than 2 minutes) 2. Indoor unit receiving the communication error from outdoor unit 3. Outdoor unit tracking 3 minute error 4. When sending the communication error from outdoor unit due to the mismatching of the communication numbers and installed numbers after completion of tracking (communication error for more than 2 minutes)	X	X	◑	◑	X	Error of indoor unit: Displayed on the indoor unit regardless of operation

● On ◑ Flickering X Off

LED Display

Abnormal conditions	Indicators					Operating
	⏻		⏲	✣	▦	
	Green	Red				
1. 2nd detection of refrigerant completely leak 2. 2nd detection of high temperature COND 3. 2nd detection of high temperature DISCHARGE 4. Compressor down due to 6th detection of freezing	X	X	◑	◑	◑	Displayed on appropriate indoor unit which is operating Displayed on outdoor unit
Error of float switch	X	X	X	◑	◑	
Error of setting option switches for optional accessories	X	X	◑	X	◑	
EEPROM error	◑	X	◑	◑	X	
EEPROM option error	◑	◑	◑	◑	◑	

● On ◑ Flickering X Off

- If you turn off the air conditioner when the LED is flickering, the LED is also turned off.
- If you re-operate the air conditioner, it operates normally at first, then detects an error again.

Wired remote controller

◆ If an error occurs, ▟ is displayed on the wired remote controller.
If you would like to see an error code, press the Test button.

Display	Explanation	Remark
Er↔EA	Error of communication between the outdoor unit and the wired remote controller	Communication errors
Er↔Eb	Error of communication between the indoor unit and the wired remote controller	
Er↔ox	Error of float switch	Displays related to indoor unit (x : 0~F)
Er↔qx	OPEN/SHORT error of room sensor in indoor unit	
Er↔rx	OPEN/SHORT error of eva sensor in indoor unit	
Er↔tx	EEPROM error	
Er↔Ux	EEPROM option error	
Er↔vx	Error of fan starting	
Er↔Eo	Error of outdoor unit	For the details, refer to the installation manual of the outdoor unit.

The order of priority : EA → Eb → ox → qx → rx → tx → Ux → vx → Eo
- In case that the same error displays from multi-indoor units, the one having the faster address has the priority.

Chapter 2

OPTIONAL ACCESSORIES

■ Parts List 22

Parts List

Wired Remote Controller Accessories

Wired remote controller	Cable-tie	Cable clamp	M4x16 tapped screw	Indoor unit power drawing cable	Owner's instructions	Installation manual
1	2	5	7	1	1	1

Wireless Remote Controller Accessories

Wireless remote controller	Battery	Remote control holder	STS 2S-2x10 tapped screw	Owner's instructions	Installation manual
1	2	1	2	1	1

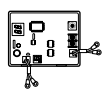
Centralized Controller Accessories

Centralized controller	Cable-tie	Cable clamp	M4x16 tapped screw	Owner's instructions	Installation manual
1	2	5	7	1	1

Function Controller Accessories

Function controller	Cable-tie	Cable clamp	M4x16 tapped screw	Owner's instructions	Installation manual
1	2	6	7	1	1

Transmitter Accessories

Transmitter	Transmitter power cable	Transmitter communication cable	Installation manual
1	1	1	1
			

Memo

THIS AIR CONDITIONER IS MANUFACTURED BY:
ESTE AIRE ACONDICIONADO HA SIDO FABRICADO POR:
CE CLIMATISEUR EST FABRIQUE PAR:
QUESTO CONDIZIONATORE D'ARIA È PRODOTTO DA:
ESTE APARELHO DE AR CONDICIONADO É FABRICADO POR:
DIESE KLIMAANLAGE IST FABRIZIERT VON:
ΑΥΤΗ Η ΣΥΣΚΕΥΗ ΚΑΤΑΣΚΕΥΑΣΤΗΚΕ ΑΠΟ:
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